

ANALYST:		VPDES NO	
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Parameter: Ammonia Nitrogen  
Method: Ion Specific Electrode  
 04/02

**METHOD OF ANALYSIS:**

	18th Edition of Standard Methods 4500NH <sub>3</sub> -F
	EPA Methods for Chemical Analysis 350.3
	ASTM D1426-89(B)

		Y	N
1)	Is analysis performed with a pH meter with an expanded millivolt scale capable of 0.1 mV resolution between - 700 mV and + 700 mV or an ion specific meter? [SM-2.a; 350.3-5.1]		
2)	Is a Teflon coated stirrer bar and magnetic stirrer used during analysis? [SM-2.c; 350.3-5.3]		
3)	Is a thermally insulated magnetic stirrer used during analysis? [SM-2.c; 350.3-5.3]		
4)	Is the electrode used an Orion Model 95-12 or 95-10, EIL Model 8002-2, Beckman Model 39565 or equivalent? [SM-2.a; 350.3-5.2]		
5)	For short term storage (week or less) is probe stored as specified in the manufacturers instructions? [Mfr]		
6)	For long term storage (longer than one week) is the electrode drained, rinsed with distilled water and stored dry? [Mfr]		
7)	Is ammonia free water used for all aspects of the procedure? [SM-3.a; 350.3-6.1]		
8)	Is stock ammonia standard (1000 mg/L N or 0.1 M) free from growths or precipitates? [Permit]		
9)	Are standards prepared using Class A volumetric glassware? [SM-1070 B.2; Permit]		
10)	Is 1 mL of 10N NaOH (2 mL of 5N NaOH) added <u>after</u> the electrode has been placed in the sample? [SM-4.b; 350.3-7.2]		
11)	Is the pH of the sample $\geq$ 11 SU after the addition of the 10N NaOH? [SM-4.b; 350.3-7.2]		
12)	Is the linearity of the calibration curve determined appropriately and is it $\geq 0.995$ ? [SM-4.c; 350.3-7.3]		
13)	Are direct readout meters calibrated according to manufacturer's instructions? [Mfr.]		
14)	Are standards and samples read from lowest to highest concentration? [SM-4.b; 350.3-7.2]		
15)	Is the instrument slope documented to be within manufacturer's specifications each sample run? (Corning -55 $\pm$ 5 mV, Orion -57 $\pm$ 3 mV, Accumet -59 $\pm$ 4 mV, Hach -58 $\pm$ 4 mV) [Mfr.]		
16)	Is the electrode rinsed with distilled water and blotted dry between measurements? [Permit]		
17)	Are samples and standards stirred so that bubbles are not sucked in the solution? [SM-4.b; Permit]		
18)	Is the electrode held at a 20 - 30 degree angle in the sample during analysis? [Mfr]		
19)	Is the electrode tip free of bubbles during operation? [Permit]		
20)	Is a new curve drawn when calibration standards are not within $\pm 5.0\%$ of the existing curve? [Permit]		

	Y	N
21) Are results recorded as soon as the meter stabilizes? [SM-4.b; 350.3-7.2		
22) Are results recorded in terms of ammonia nitrogen? [SM-4.3; 350.3-7.5]		
23) Are standards and samples at the same temperature when analyzed? [SM-1.b; Permit]		
24) Are all calibrations, calculations, temperatures recorded? [Permit]		

PROBLEMS: